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LESPEDEZA*

Excerpts from 1934 Annual Reports of State and County Extension Agents

Prepared by
Extension Studies and Teaching Section

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*No attempt is made to cite in this circular all references to lespedeza. Only selected extracts showing typical methods employed and results obtained in a number of States are included.

DISTRIBUTION: A copy of this circular has been sent to each State extension director; agronomy specialist; agricultural-college library; and experiment-station library.

Foreword

The Southern States have been in very great need of an acid-tolerant forage and hay crop, and lespedeza meets this need. It will maintain itself and make a fair growth on land that is normally too poor for profitable crop production. However, it will make much more satisfactory growth for both pasture and hay on the better types of soil.

The improved strains of annual lespedeza, under almost any conditions, will reseed themselves, and in this way they are almost as satisfactory as perennials. They start slowly in the spring, and give their best results during the hot summer and the fall, when grass crops usually furnish the least amount of feed. The earlier strains, especially those of Korean, are being grown successfully as far north as central Illinois and Indiana and throughout Pennsylvania and parts of New York.

The perennial (Lespedeza sericea) is proving successful as a hay crop and should become more popular as seed supplies are made available at a reasonable price.

O. S. Fisher

O. S. Fisher,
Extension Agronomist.

Arkansas

Lespedeza is taking first place along with cowpeas and soybeans as a hay crop. With the reduction in cotton and corn acres, lespedeza was stressed as a hay crop and also for permanent pasture.

After the spring sowing season for grasses and lespedeza was over, a card was sent to each corn-hog contractor asking what he was planning to do with his corn-rented acres. The answers came back concerning lespedeza as follows: 7 would sow lespedeza for hay, 50 for permanent pastures, 8 for soil improvement, and 1 as a soil-erosion crop. Publicity was given to the use of lespedeza through the press, local leaders of the corn-hog program, circular letters, and personal contact. Taking corn out of production and not being able to grow a crop that could be harvested naturally led to permanent pastures and meadows. Therefore, several thousand pounds of lespedeza, Korean mostly, was sown.

At the end of the hay season a questionnaire card was sent to the cooperators to determine the results of the lespedeza, the variety they thought best and its benefit as a pasture or hay crop. Most of the cooperators indicated that the severe drought ruined the crop or caused it to give very little results. However, the fields visited showed that when it was planted on a firm seedbed, the growth was good. On a loose seedbed the growth was slight and in most cases the lespedeza died.

A large amount of Lespedeza sericea has been seeded in Clay County, particularly around Knobel. Where sown broadcast, the crop has not been satisfactory. However, when drilled in rows and cultivated, the crop looks very promising the first year. E. E. Clarkson has 3 acres. One acre he cultivated and kept clean of all grasses and weeds. The crop looks fine and he is saving it for seed. The other 2 acres grew up in grass and were not so successful. It is generally believed that if cultivated until it gets a good start Lespedeza sericea will prove a valuable hay and pasture crop.

George F. Metzler, County Agent, Piggott, Clay Co.

Lespedeza is one crop that is a true democrat as it will grow anywhere in the county and does not need to be nursed and pampered as is the case with most other clovers. W. L. Hurley of Hector says lespedeza is one crop that he would just as soon have grow on his land as have the land cultivated, and much rather have it grow than have many tenants farm the land by their methods. When an old farm is allowed to lie idle for a few years in almost any part of the county, the late lespedeza or Japan clover comes in without planting. This clover adds fertility to the soil at such a rate that it is commonplace that, if the land is not subject to washing and lies idle for 5 years, the first crop following this period will be almost equal to that from fresh land.

In the last 2 years, a new variety of lespedeza has been brought into the county and tried and has some promise of developing into a valuable feed crop. This is Lespedeza sericea or perennial lespedeza. A. J. Horn of Lost Corner planted three-fourths of an acre of this Lespedeza sericea and secured a fine stand. It was cultivated during 1933, but not this year. The seed from last year's crop was saved and planted on an adjoining piece of ground and many volunteer plants came up in the middles, making the growth a solid set this season. Mr. Horn reports two fine cuttings of hay and that his stock like the hay very much.

W. F. Vaughan of Hatley community had two-thirds of an acre, and Roscoe Martin, J. B. Turner, and T. A. Taylor, all of Gravel Hill, had small quantities of this seed and they are all highly pleased with the results. Henry Meimerstorf reports that he cut his Lespedeza sericea twice in 1933 and twice in 1934, that the quality of the hay was very good, comparing favorably with alfalfa, and that his cows ate it just as well. He is mighty well pleased with the new lespedeza.

W. R. Daniel, County Agent, Russellville, Pope Co.

"No new crop has aroused greater interest than Lespedeza sericea. It is the most outstanding plant introduction made in years. The plant is very drought resistant, being deeply rooted, coming from the crown like alfalfa.

"My first planting of sericea, made May 10, 1933, planted in drill, was in rows 36 inches apart at the rate of 3 pounds of seed to the acre. The plants made a rapid growth attaining a height of 30 inches at maturity. I cultivated the plot twice. On October 12, I harvested my seed crop, which netted me 150 pounds of seed from one-half pound planted, and in harvesting this crop there was enough seed left on the ground to make a perfect stand.

"The stems increase from the crown each year as the plant grows older. The first warm days of spring started them growing, and by May 15 of this year I cut a fine crop of hay estimated at 1 ton per acre for the first cutting. Sixty days later I made my second cutting.

"The plant remained a dark green and continued to grow during the severe drought. I have harvested a good seed crop that will almost equal the crop last year, which I have already sold at a good profit.

"To the farmers of Van Buren County: Try this legume crop another year. Remember, this is a perennial plant which will withstand the drought, will grow on thin or sour land, and will not easily die by being crowded by weeds or grass. It will withstand zero weather and put forth new growth in early spring. It is one of the best soil builders we have. Lespedeza is a plant that will convert much waste land into profitable grazing and hay land. It also prevents erosion. In my estimation it is wonderful for us who have stony, dry land." (From lespedez report of R. R. French.)

G. E. Tanner, County Agent, Clinton, Van Buren Co.

Arthur Shively, Prairie Grove, pastured 10 dairy cows on 1 acre of Korean lespedeza for 6 weeks in the latter part of July and August while his other pastures were so dry that they could not be pastured. Other similar demonstrations gained a wide reputation for Korean lespedeza. From 4,000 acres in 1930 to 1934, Korean lespedeza has developed to 30,000 acres at the present time. As a result of a demonstration of a 4-year rotation of oats with Korean lespedeza the first year, Korean lespedeza as a meadow the second year, Korean lespedeza pasture the third year, and corn the fourth year, John Henbest found that the production of corn per acre was raised from 21 to 35 bushels. Korean lespedeza has become one of our main factors in prevention of soil erosion.

Raymond Leach of Dutch Mills finds that Korean lespedeza planted on a steep hillside will prevent further erosion on the land. He says that the small ditches and other eroded spots in the field will gradually fill in during the summer. It was observed by Mr. Leach that water passing over the Korean lespedeza field in midsummer would leave the field practically clear as rain water, whereas water passing from a field adjoining his Korean lespedeza field contained a very heavy sediment of mud and silt. Other similar demonstrations have been conducted with this plant with like results; therefore, we have come to the conclusion that such a plant, that will furnish pasture during hot, dry summers, give a good crop of hay and meadow, add fertility to the soil, and prevent erosion, is well worth our attention and efforts and we feel that they have been justified by the tremendous increase in acreage for the years mentioned.

O. L. McMurray, County Agent, Fayetteville, Washington Co.

Florida

Project demonstration - *Lespedeza sericea*.- One boy was enrolled in this club. This was the feature project demonstration of the county and was conducted by Kenneth Reed. *Lespedeza sericea* is a new crop to this country. This is the second year Kenneth has carried this project. He has shown a nice profit and also that this new lespedeza has wonderful possibilities as a perennial legume hay crop in the county. Such a crop is badly needed here. Kenneth has shown a net profit of $48.99 for the hay and seed from this acre project in 1934.

E. H. Finlayson, County Agent, Monticello, Jefferson Co.

Georgia

Lespedeza has come to the front very rapidly in Dougherty County in recent years not only as a grazing crop but as a soil builder and hay crop. Demonstrations consisting of variety tests with reference to both grazing and hay were conducted in all three of the communities of the county. There are now 5,000 acres seeded to lespedeza for pastures in the county. Demonstrations conducted during the past year with lespedeza as a forage crop have shown sufficient profit to warrant the belief that at least 2,000 acres will be seeded for hay in the county another year. Five percent of the rented cotton acres was planted in lespedeza during the past year, or will be planted within the next few months.

A. E. Gibson, County Agent, Albany, Dougherty Co.

Three years ago we started the three varieties of lespedeza - Korean, Kobe, and Tennessee 76 - in a small way in this county. They were tried out as pasture plants and also as soil-building and hay crops.

The Korean and Kobe varieties have given excellent results in pastures and as a hay crop on low lands. The Tennessee 76 has proved to be an outstanding hay crop on our uplands, as well as a soil-building crop.

Last year we had three demonstrations and the results were so satisfactory that this year more than 4,000 pounds of seed in the Tennessee 76 variety were seeded. The demonstrations this year were scattered in various sections of the county. The yields of hay from this Tennessee 76 have surpassed anything we have used as an annual summer legume for a hay crop, and the quality of hay produced is excellent. From the reports of farmers who have attended these meetings and who have been otherwise informed about this crop, it looks like the county will seed nearly 15,000 pounds of seed next spring. Many farmers have harvested their own seed, as it produces an abundance of seed here.

The seed is scattered over wheat and oats early in the spring, or on lands not to be planted to crops if it is to be used as a soil-building crop. If sowed on wheat and oat lands as soon as these crops are cut off, it makes a dense growth and continues to grow until almost frost. It looks very promising as a soil-building crop as I have been convinced that it will greatly lessen the erosion where seeded, even on very thin land.

It looks like this will become one of our leading soil-building legume crops as well as one of our leading summer legume hay crops.

A. G. Robinson, County Agent, Lawrenceville, Gwinnett Co.

Illinois

Approximately 80,000 pounds of this seed (Korean lespedeza) was sown in this county this year at an average rate of 10 pounds per acre. This, added to acres seeded the year previous, brings the county acreage up to about 10,000 acres.

Approximately 200 acres were harvested for seed; 500 acres were sown in orchards for soil improvement; and 2,500 acres were cut for hay, the balance being used for pasture.

One 12-acre field, which was sown this spring at the rate of 20 pounds per acre, yielded 6,858 pounds of seed for a little more than 500 pounds to the acre. Some lespedeza harvested for seed, was sown with wheat at the rate of 12 pounds per acre and with oats at 20 pounds per acre. Lespedeza sown with small grains appeared to make nearly as much growth as that seeded by itself, and in most cases was bothered less by weeds. The bulk of seed on pastures was sown the latter part of February, that on small grain at the same time clovers were sown.

No difficulty was had in securing a crop of hay from this year's seedings where sufficient seed was used and was sown at any early enough date. This is a contradiction of last year's report.

Civilian Conservation camps are using large amounts of this seed in soil-erosion control. After building dams in washes and gullies, the banks are smoothed down and planted in black locust and seeded in lespedeza, and in some cases lespedeza is used without black locust.

From the current interest in this crop, more acres will be seeded next spring than last, even though emphasis is being placed on the fact that this legume does not take the place of sweetclover or soybeans, and that farmers who are able to lime their soil should continue to do so for best results.

W. E. Gould, County Agent, Vienna, Johnson Co.

The last 3 years have witnessed an increasing interest in lespedeza. The acreage has increased substantially, and we estimate that at least 1,500 acres were grown in McLean County this year. Much of the lespedeza was grown on lands which were seeded according to instruction of the soil-erosion service in this area, and much of the remainder was seeded on contracted acreage. The year 1934 was the best for lespedeza in McLean County that we have experienced. In most instances the crop stood the drought condition equally as well as sweetclover, and in many instances better than clover, alsike, timothy, and other commonly grown meadow crops. We are familiar with one field of lespedeza that produced 500 pounds of seed per acre this year.

Recognizing that there is a distinct need for lespedeza of the perennial type, we introduced three varieties of perennial lespedeza known as Lespedeza sericea", in 1933. This seed was planted on 6 different plots, only 1 of which was successful because of the dry weather early in the season. The one which was planted later in the season and came through the drought in good shape was under observation this year. It lived during the winter and produced some seed in 1934. If this plant will continue through the winters which are common in McLean County, it offers real possibilities for this area, particularly as a forage crop.

R. J. Laible, County Agent, Bloomington, McLean Co.

Indiana

Much stress has been placed on the proper places to use Korean lespedeza in both demonstration and extension-school work. Six hundred and eighty-three farmers attended 46 field demonstrations where culture and uses were discussed. County agents reported 426 result demonstrations in 53 counties.

Korean lespedeza is being encouraged as a part of a "shotgun" mixture intended for rotation or permanent pastures, and especially under conditions where clover is not reliable. Because of its tolerance of acid soil and droughty conditions once it is established, it adds to the chances of having a legume succeed under conditions where clover and alfalfa would not survive. It provides only summer or fall pasture, and may be used in almost any combination with grasses, grains, or legumes, but it will not compete with a heavy bluegrass sod. Although seed is harvested by occasional farmers as far north as central Indiana, most of the seed crop produced in southern Indiana is harvested in Gibson, Posey, Vanderburgh, and other southwestern Indiana counties. In this section, increasing use is being made of it for both hay and pasture, and very satisfactory results are reported.

Seed growers are reducing the amount of dodder in their lespedeza seed, and 61,600 pounds were certified on a dodder-free basis.

New lespedezas including sericea and Kobe in southern Indiana and Harbin in northern Indiana have been included in small demonstrations. Sericea has been able to survive the winters only in southern Indiana counties thus far.

Since failure to inoculate Korean lespedeza is a limiting factor in success with this crop, inoculation demonstrations are being extensively established.

A. J. Winsko, Agronomy, Purdue University, La Fayette.

Sericea is a type of lespedeza which has been developed in the South. It was sown on the farm of James McGee in Brown County in the spring of 1933. This is a legume which grows like alfalfa, its roots living over the winter. The stems and foliage are tough and the plant is not very good hay. However, it is a soil builder and has the advantage of growing on acid soil.

This legume shows some promise of being a soil builder in our county. Last year the demonstration plot showed a growth of 18 to 36 inches and remained green until late in November. A fair crop of seed was matured and harvested by

Mr. McGee. This seed was planted during the spring of 1934 and has made a fair growth in spite of the very dry weather.

The old demonstration plot which was sown in 1933 made a much better showing as the plants were much thicker on the ground, thus crowding out all weeds. The sericea has made a growth of 36 to 48 inches and has produced a fair crop of seed.

R. E. Grubbs, County Agent, Delphi, Brown Co.

Up to February 20, 17 farmers of Posey County had 44,760 pounds of lespedeza seed recleaned for sowing purposes.

The same portable seed-cleaning outfit which was used to clean seed wheat in Posey County was adjusted to clean lespedeza seed. The farmers were charged 1/4 cent per pound for cleaning. The gross receipts for cleaning lespedeza seed were $167.48. The net earnings of the cleaner were $70.82. This shows a reasonable rate for cleaning and gives considerable allowance for depreciation and replacement which would be included in the $70.82.

The biggest problem with lespedeza in Posey County is dodder. It is difficult to find fields of lespedeza which do not contain dodder. We think it better to clean the seed as thoroughly as possible and reduce the percentage of dodder to the minimum rather than let it go uncleaned, because it will be sown anyway.

Edgar Thomas has tested out the possibilities of lespedeza hay by cutting it at different intervals. He reports that hay cut in July was bitter or in some way was repelled by the animals. As a result of his observation he thinks lespedeza hay should be cut in Posey County within the first 10 days of August.

Dan Williams has 27 acres of Kobe lespedeza. He got 1,500 pounds of seed from 5 acres of it last year. He sowed 600 pounds of Kobe lespedeza seed on 40 acres previous to March 21, 1934. In plowing under 5 acres of Kobe he reported that the soil was matted with roots, fully as deep as red clover roots go. He said he plowed 9 inches deeper to get under. He reported that Kobe lespedeza is good for horses and cows.

John C. Black's Lespedeza sericea which he sowed in rows last year at the rate of about 2 pounds to the acre has thickened up a great deal this year. On May 24 the sericea on Mr. Black's farm varied from 6 inches to knee high. It was twice as high along the washes as it was on the level. At this time there were some young plants apparently coming from seed on the clay points and washes, but very few could be found on the level ground. This may be attributed to the possibility of plants growing faster on the clay points and producing seed last year, while in all probability no seed was produced where the plants grew more slowly on the level part of the field. Apparently there was no winter killing of the sericea the past winter.

He mowed the field June 27. The highest plants which could be found in the field at that time were about waist high. Most of the sericea was not more than 12 inches high especially on the white clay on the level part of the field. It grew the highest along the washes and what is generally regarded as the poor spots of the field.

Dan Williams sowed 10 pounds of sericea on 1 acre of ground in April 1933. He reports a good stand in spite of the fact that crabgrass was thick in it.

Otis Carroll reported a good stand of lespedeza this year on the ground which was seeded in 1933. He did not think he had much last year, and more or less ignored it this year until he found that the livestock pasturing on the ground were eating it and that the stand had thickened up a great deal. He said he would have cut it for seed this year had he not gone too far with the pasturing before he realized what he had.

The coarse stem of Lespedeza sericea makes it somewhat unpopular in this locality, especially by those farmers who are growing alfalfa and red clover. As yet it has to prove itself before farmers will generally accept it. It may do better than it appears to at the present time.

We are interested in lespedeza of all kinds in Posey County because of the shortage of pasture in this county during the hot dry months. We are also interested in it as a hay crop in view of the increasing percentage of failure of red clover. It fits well into any livestock program. There are several growers in each community. The principle use so far has been for pasture.

The greatest benefit of lespedeza pasture, however, was for the dairymen in the county. The sheepmen profited thereby. A rough estimate of this project in Posey County is $25,000 annually, which will pay dividends for several years to come.

There is still much poor land in Posey County which is growing poor pasture. The attention of farmers should be called to lespedeza and its possibilities next year. Farmers should be cautioned about sowing lespedeza containing dodder. No let-up should be made on this point in connection with the lespedeza project.

O. B. Riggs, County Agent, Mount Vernon, Posey Co.

Kansas

Korean lespedeza first became of importance in this county about 3 years ago. It was introduced in Bourbon County through the efforts of the county agent and farm bureau. Lespedeza has proved its adaptability to the poorer types of soil in this section of Kansas. Perhaps the greatest use of lespedeza here has been as a pasture crop. Many farmers have used it in their permanent pastures with success. A number of farmers have seeded lespedeza with oats in the spring, then harvested the oats and used the lespedeza for pasture the rest of the year. They found out that the lespedeza would produce enough seed so that the field could be seeded to oats again the next spring with another crop of lespedeza coming on again after the oats were harvested.

D. B. Coonrod, Arcadia, and W. E. May, Hepler, have used lespedeza seeded with oats successfully. Some of the diarymen here have seeded oats and lespedeza together in the spring and used both for pasture, and only the oats needed reseeding the next spring.

Many farmers have found that by scattering lespedeza seed over the bare spots of their permanent pasture the carrying capacity of the pasture has been increased. Lespedeza has not shown itself to be adapted as a hay crop here, although a few farmers do harvest it for hay. Nor has it proved itself to be superior or equal to sweetclover as a soil-improvement crop in this county, although it possibly is better adapted to the more acid soils. A large amount of lespedeza seed has been bought by the farmers in this county each year. The seed crop this year, however, will be light, because of the short growth during the summer.

Lespedeza sericea has been tried in small plots by a number of farmers in this county for the past 2 years. It has shown no characteristics as yet to make it outstanding. There seems to be some doubt about its ability to stand a hard winter, and as the past two winters have been mild we have no check on its winter hardiness.

Albert Brown, County Agent, Fort Scott, Bourbon Co.

Kentucky

How the work was done.-- As previously stated, the actual way 90 percent of the lespedeza work was done was by short conversations with farmers who visited the county agents' offices. The demonstrations lay on every hand where the crop grew last year. The bringing of these people to the office through the A. A. A. program coincided with a stage in the State's extension program with lespedeza where the situation was ripe for the final punch delivered there. All other specialists, from those in apple, potato, chicken, sheep, hog, and cow work, to farm-record and 4-H men, throw in a word for Korean lespedeza. The county agents cannot hide from the lespedeza talk of their farmers. Farmers' organizations have aided in handling seed in an orderly manner.

In the poorer sections of the State, about 75 percent of the Korean seed is sowed alone. In the better farming sections from 90 to 100 percent is sowed in mixtures with grass.

Lespedeza hay production in Kentucky has now reached a stage where it will compete each year with alfalfa hay on the markets of the Corn and Cotton Belt buyers. Since leafy Korean hay can readily be had by cutting and curing properly, it will present a better appearance than other hays. With 5 to 10 percent more leaves than equally good-looking alfalfa hay, the feeding value is apparent.

Summarizing the estimated cash value of the lespedeza crop in Kentucky in 65 counties in 1934, we have:

10,000,000 pounds Korean seed @ 5¢	$ 500,000
1,000,000 pounds Common lespedeza seed @ 5¢	50,000
500,000 pounds Kobe seed @ 5¢	25,000
Pasture	2,826,700
984,278 tons hay @ $10	9,842,780
Total	$ 13,244,480

Assuming that the 46 counties with no reports in constitute as much as 50 percent of the 65 tabulated, we may add $6,622,240 to the cash total making it total $19,866,720. Similar computation makes the Korean seed crop approximately 15,000,000 pounds and the total lespedeza hay crop 1,476,417 tons.

George Roberts, Agronomy, College of Agriculture, University of Kentucky, Lexington

"Reports from numerous Allen County farmers who have sown *Lespedeza sericea* either in 1932 or 1933 show that these old plots made a growth of approximately 1 inch per day during the month of May. However, approximately all the farmers report varying degrees of success in securing stands.

"Rupert Huntsman, Scottsville, Ky., submitted sample growths of *Lespedeza sericea* during its third year growth that reached the height of 12 inches by

April 30 this year. Apparently, sericea here is making a much more vigorous growth in its second year than in its first year and more vigorous growth in its third year as compared with its second year growth. Mr. Huntsman reported that the sericea in second year growth was only 6 to 8 inches high April 30, whereas it was around 12 inches high in its third year on April 30.

"The best growth of wheat observed by the county agent this year is on the farm of Ed. Wygal, Adolphus R#1, Ky. An excellent growth of Korean lespedeza was turned under for the wheat last August. The land was well firmed before sowing and seeded to wheat about October 5. This wheat was tall enough to wave, April 15. Much wheat in Allen County that was sown under poor conditions was either partially or completely frozen out or now has a very poor growth."

J. H. Atkerson, County Agent, Scottsville, Allen Co.

Korean during the past year has climbed to greater heights of popularity with a record seeding of 125,000 pounds during the past spring, and a harvest of 200,000 pounds this fall. The spread in popularity of this legume has truly been phenomenal. Farmers are almost of one accord in claiming it to be the greatest grass ever introduced in this section. More than ever, farmers are realizing its importance as a land builder, pasture, and hay crop.

As a land builder, farmers are learning that it is there every year, regardless of the weather, adding nitrogen and organic matter. Particularly was this demonstrated during the past year, since practically all kinds of grass except Korean were killed by dry weather in early spring. Not only does Korean withstand dry weather but can be sowed late in spring after the other grasses have been thinned out by dry weather and still make a satisfactory growth. In fact a demonstration on the farm of Frank Browning, near Wallingford, showed a growth of 1 to 2 feet on fairly thin land when sowed the last part of June.

Another demonstration by Mr. Browning showed quite conclusively the advantage of a prepared, compact seedbed. Twice as good a stand and greater growth were obtained where the land was harrowed as compared to no harrowing.

As a pasture crop nearly all agree that Korean is preeminent. Overgrazing seems to be an impossibility. The quality of grass is outstanding. Not one but dozens and dozens of farmers report increased milk production after turning on Korean fields.

Korean hay production jumped from 150 tons last year to at least 1,500 tons this year, and without exception every man who reported said the yield was 50 to 100 percent greater than he expected. Ease of curing and harvesting also met with approval of the farmers. Because of its low water content it could be put in the barn or rick sooner than alfalfa or red clover.

The feeding quality is highly satisfactory in all comparisons made to alfalfa.

Lespedeza sericea was demonstrated again for the second time in Fleming County. The farmers found it much more difficult than Korean to get a stand and even after getting a stand it has been somewhat backward in establishing itself. It also is late starting in the spring and thus its value as a pasture crop is depreciated. Its quality for both hay and pasture cannot be doubted. It also seems to be particularly palatable to livestock. Even the woody stems are readily eaten. The third and fourth cuttings are of mighty fine quality with easily more than 50 percent of the total composed of leaves. Elza Bramel and sons exhibited in the window at the county agent's office a bale of sericea which caused much comment. Scores of people marveled at its fineness and green appearance.

R. H. Lickert, County Agent, Flemingsburg, Fleming Co.

Last year the largest seed crop (Korean clover) harvested in eastern Kentucky was in this county. Over a million and a quarter pounds of seed were cleaned and stored. Government loans were secured on over 500,000 pounds. This was later sold to the Government for from 4 to 5 cents per pound. In April a meeting was called, and 51 producers met and organized the Jessamine Korean Seed Association. Dr. Card from the college was present at the time. Mr. Ashley was chosen to sell the seed on a commission basis. Dissension started in the organization and the association went to pieces. Farmers sold their seed; some took truck loads of it into the mountain counties and sold it for from 5 to 7 cents per pound.

This year our seed crop will be about 200,000 pounds. Farmers were advised to cut all their crops for hay, as there looked to be a shortage of hay in the country due to the drought. Four hundred tons of hay was purchased and stored away in the old Ford Garage in Nicholasville, Ky. The Union Stockyards and the Bourbon stockyards bought this hay up at from $12 to $15 per ton. It looks as though someone is going to sink some money in bad hay.

The hay crop was short in the county, and without the Korean hay, the farmers would have to go outside and buy hay. Timothy and clover hay was about cut in half in production.

The seed is very light this year. Many farmers who started to thresh their seed got such meager returns that they moved the machine out of their fields. One hundred and fifty to three hundred pounds of seed to the acre was common. Last year 600 to 800 pounds were secured. Jessamine will have to bring seed into the county to reseed. They will use the 200,000 pounds threshed in the county at home.

The feed value of the hay is well known and many of the sheepmen are saving their best hay to feed this winter. No reports have come to this office as to the causing of deaths in lambs and ewes. Clover hay, alfalfa, and Korean hay were tried by S. P. Berryman in the Sulphur Well community in a feeding experiment. The hay was kept in the racks at all times. The sheep ate three times as much Korean hay as the other hay. They would leave much of the alfalfa in their troughs and clean up the Korean hay, which has a finer stem and is more palatable. He had no mortality in ewes or lambs from feeding it, and no loss of ewes before lambing time from what is known as "pregnancy disease." We will know more about the feed value of this hay this winter as the sheepmen have nothing else to feed but Korean.

The feed value of this hay on cattle and work stock will also be proved this winter. Colonel Kotch, U. S. Army, purchased 2 tons of the hay to try on his horses this winter. All the stock in the county was grazed on the Korean pasture, as there was none other during July and August. It has been a lifesaver to the farmers of Jessamine.

C. C. Shade, County Agent, Nicholasville, Jessamine Co.

W. J. Hughes of Woodland community sowed 30 pounds of Korean on 18 acres of land in the spring of 1930. Korean was the only one of five plants that stood the drought of 1930, and this light seeding only gave a stalk every 2 or 3 feet according to Mr. Hughes. Because of the topography of the land, Mr. Hughes did not want to break the field again, and due to shortage of funds he failed to do anything else with the field. In the spring of 1931 Korean came up to a solid stand, and a group of 25 men inspected this field and estimated it to make a ton of hay to the acre. Later in 1931, Mr. Hughes cut a portion of this field and reported that it made a ton and a half of hay per acre. The rest of the field was allowed to stand and was threshed. The field was allowed to stand without further attention until the fall of 1932, at which time Mr. Hughes threshed another 250 pounds of seed per acre and the field was again allowed to stand until 1933 when Mr. Hughes threshed 350 pounds of seed per acre. In the spring of 1934 he fenced off 5 acres of this land for corn and 3 acres for garden and truck lots, leaving the 10 acres for pasture. This 10 acres was pastured the entire season with 2 milk cows, 2 head of horses, 2 colts, and several head of hogs up until the first of September. Some parts of the field were grazed so closely that it was too short to cut, but from the higher spots of the 10 acres Mr. Hughes reports that he threshed 1,000 pounds of seed.

In 10 of the 12 communities where farm-bureau programs of work were built, the turning under of Korean stubble or the Korean crop was one of the projects to be undertaken in 1934. Farmers have felt they have been getting bountiful returns from Korean, but it was only in a few instances until 1934 that we were actually able to measure the results where Korean was grown against those where Korean was not grown.

R. C. Hopper, County Agent, Brandenburg, Meade Co.

Maryland

A great deal of the farm land in the county is in thin hillside unsuitable for crop production. Much of this land is not worth the expense of liming and seedbed preparation necessary for the usual grass crop. Having learned some years ago of the merit of lespedeza on the worn-out cotton lands of the South, we decided to try it as a pasture crop on some of our poor hill land. During recent years scientific experimentations have resulted in the development of earlier maturing varieties. Because our season is short these newer varieties seem to be more promising for our conditions than the types generally produced in the South. During 1933 we secured seed of the Korean type and started 12 demonstrations. These tests are located in two of the poorer sections of the county. Our purpose was to see if the seed would mature early enough so that it would come up and establish a crop the following year. A check during the present year showed that the seed did mature, and the resultant stands were better than they were the year of seeding. However, the growth was rather disappointing, which may have been because of excessive dry weather during the summer months.

During the spring of 1933 in cooperation with the Maryland Experiment Station and the United States Department of Agriculture a small quantity of Harbin lespedeza was planted in rows on the farm of Miller Brothers, Midland, Md. These rows were cultivated and a crop of seed was harvested. During the past spring a quantity of this seed again was distributed and six demonstrations were established. This variety seems to be very much earlier than the Korean. In fact it is a question of whether or not it may be too early, as some of the seed sprouted and came up in the fall. If this is one of its characteristics it is questionable whether enough seed will remain to start a crop next spring.

R. F. McHenry, County Agent, Cumberland, Allegany Co.

Three years ago none of the improved varieties of lespedeza was used in the county. The crop was introduced in a limited way by the county agent so that it could be tried out as to its adaptability to this section. It was very successful. In the spring of 1933 one dealer sold 1,800 pounds of Korean seed. This same dealer in 1934 sold 4,300 pounds of the same variety.

About a month previous to sowing time a letter was sent to the 1933 growers asking them to send in their observations regarding the growing and uses of the crop. These letters were published in the local papers. The experiences these farmers had with Korean lespedeza had a large influence on the increased plantings.

Six plantings of Lespedeza sericea are doing well, and if the seed is at a reasonable price in 1935 this valuable crop will be increased.

Southern Maryland has long been looking for a satisfactory hay and forage crop that will grow on acid land, and these lespedezas seem to be the best available for that purpose.

As the growth of this crop becomes more general I look for an improvement in the livestock of the county and also an increase in numbers.

P. D. Brown, County Agent, La Plata, Charles Co.

Missouri

The greatest increased acreage in any one recommended crop was that of Korean lespedeza as an emergency pasture and pasture supplement.

This year 20,000 acres of lespedeza were grown from newly seeded or reseeded crops by 750 farmers in the county as compared to 8,000 acres, grown by 360 farmers last year; 1,250 acres, grown by 150 farmers in 1932; and 150 acres, grown by 35 farmers in 1931. This rapidly increased acreage in this crop is due largely to the fact that demonstrations carried out in the past 3 years within the county have proved beyond any doubt that this crop has a place on most Benton County farms where other types of legumes could not be grown because of acid conditions of the soil, low fertility, or lack of moisture.

The Korean lespedeza result demonstrations carried on the past 2 years show the following results regarding its uses and adaptability in this county:

1. Will grow successfully on either prepared or unprepared seedbed.
2. Successful when either with or without a nurse crop.
3. Crop from own reseeding will furnish pasture 2 weeks to 1 month earlier than first year's seeding.
4. Will produce abundant seed crop after pasturing up to September 1.
5. Will produce fair hay crop on thin, sour land.
6. Will produce both hay crop and fair seed crop.
7. Will carry much more livestock per acre during July, August, and September than will the native pasture grasses.
8. Is especially adapted to our Benton County thin, sour lands that

will not grow other legumes successfully.

O. V. Singleton, County Agent, Warsaw, Benton Co.

The universal adoption of Korean clover as a legume crop is perhaps the most significant development in crop improvement in 1934. In the fall of 1933, approximately 2,000,000 pounds of seed was produced, having a value of about $80,000. This made seed available in quantities previously unknown. According to best estimates, there were more than 30,000 acres seeded in the county this year. Five years ago the county had only small plots of this seed being grown for demonstration purposes. To date, it occupies a very important position along with other crops not only as a pasture proposition but also for hay and as a cash crop. One farmer, north of Carthage, sold 40,000 pounds of seed at 5-3/4 cents a pound, receiving $2,300. The returns from this crop have helped farmers to pay taxes, interest, and many other bills.

Many farmers have reported sowing Korean in combination with other grasses and because of the drought the Korean is the only one that lived through. Farmers having Korean had pasture far up into the drought this year, while those not growing Korean or other drought-resistant crops had no summer pasture. One farmer, Fred Earl, who lives east of Jasper, had 30 acres of Korean on which he pastured 15 head of cows until August 14. His cows stayed in good flesh and gave a good flow of milk while his neighbors' had no pasture. The seed crop was cut short this year; however, a number of farmers are threshing some seed. Fields that ordinarily would make 300 pounds of seed or better are yielding as much as a half a crop in spite of the drought this year.

Considerable assistance has been given to farmers in harvesting the short crop of Korean this fall. Complete directions for making a seed pan were given through local newspapers and to several individual farmers. Thirty-five of these seed pans have been constructed and 12 have equipped mowers with special guards for cutting short Korean. Walter Robinson, in harvesting 30 acres of Korean, saved more than 900 pounds of seed. Mr. Robinson thinks that he will be able to secure 600 pounds of good seed with a value of 10 cents a pound, which will mean a saving of $60. Lonnie Strecker of Sheridan Township reports saving a wagonload of seed in harvesting 20 acres.

Assistance in selling seed and testing for purity was given to about 80 farmers during the year. More than 60,000 pounds of seed was sold direct from producer to consumer with a saving of around 3 cents a pound.

J. Ed Rutter, County Agent, Carthage, Jasper Co.

Korean lespedeza has a wider adaptation in Morgan County than any other one crop introduced into the county in recent years. There are many acres of land in the county that have been farmed heavily for years and which farmers are now attempting to get in pasture again. In many cases Korean lespedeza is the only pasture crop that can be grown on such land successfully. But an even greater use is made of this crop in double cropping with small grains to provide a summer pasture crop after grain is harvested or to provide a cash seed crop. While the present drought year reduced the seed harvest to a very low figure, the crop demonstrated time and time again its value as a dry-weather pasture crop. Many farmers have been able to hold on to their livestock through the present season because of their lespedeza pasture, and others have found it possible to bring their livestock up to the winter season in good condition because the lespedeza kept the livestock in good condition until fall-sown pasture crops were available.

Parker Rodgers, County Agent, Versailles, Morgan Co.

New Jersey

In early spring of this year the specialist was supplied with very small lots of two strains of annual lespedezas by Dr. A. J. Pieters of the United States Department of Agriculture. These lots were nos. 81472 (a strain of striata) and 59379 (a strain of stipulacea). The specialist was also supplied with a larger quantity of no. 65280 (stipulacea, Harbin) by J. B. R. Dickey of Pennsylvania. These several lots of seed were sown on two farms, those of Brevort Conover, Pittstown, and H. R. Cox, Califon, both in northern New Jersey.

Conover Farm.--A pasture field of the Lansdale gravelly loam type of soil having a fair stand of desirable pasture vegetation was selected for this demonstration. The soil reaction, as in the case of all soils of this type, was only slightly acid. This area of the pasture had received a very light application of superphosphate as a top-dressing during the preceding winter.

Three plats each 30 feet square were staked out. On May 2 the staked plats were thoroughly disked to prepare a seedbed. After disking, the surface looked almost like a plowed field. Seed of the three strains, inoculated with soil, was then sown by the specialist on the several plats, after which the seed was covered lightly by a spring-tooth harrow. As there were only 9 ounces of seed in the hull for each plat the rate of sowing was rather light.

On June 26 all three plats were observed to have scarcely a fair stand of plants, the best stand probably being on no. 65280. It was also observed that nearly all plants were quite yellowish in color, and examination of the roots showed that only a few of them were inoculated. The clover and bluegrass were recovering rapidly and were again covering the plats fairly well.

On August 20 the plants of 65280 were about 2 inches high and were forming seed, some already ripe. The stand of plants was from poor to fair. The condition of 59379 was almost identical. The condition of 81742 was: Plants 4 to 5 inches high; they had not started, yet to bloom; stand a trifle better than on the other two plats.

On October 5 the plants of no. 65280 had long since matured. No. 59379 showed exactly the same condition. On 81742 the plants were still green but beginning to mature; seed in the dough stage; many seeds should mature before cold weather.

It should be stated that cows pastured the plats all summer, but probably did not disturb the plants to any extent. On October 3 the grass and clover had recovered so that in spite of the spring disking the stand was about the same as on the rest of the pasture. The fact that only a small percentage of the lespedeza plants on all plats were inoculated is noteworthy.

Phillips Farm, Cape May County.--Three years ago this farmer seeded a stump pasture to Korean lespedeza. On July 25 of this year a fairly good stand of the plants was observed on this field. The plants were quite short, about 2 to 3 inches high, but the farmer reports that the cows have been getting some summer pasture from them. He questions, however, whether the plant makes enough growth to make it worth while. Also, he thinks the plants become rather tough and unpalatable in midsummer. This field has had no fertilizer, lime, or manure applied to it. Mr. Phillips reported that he had put one spreader load of manure to a strip of this pasture last winter, but we could see no effects from it on the growth of the lespedeza. The grass in this field also is rather thin.

R. L. Heritage Farm, Salem County.--This demonstration was started in the spring of 1925 and has been described in previous annual reports of the specialist. In that year a field which was low level and close to the water table, but fairly well drained, was plowed and prepared for pasture seeding. Most of the field was sown to a regulation pasture mixture, but about 1 acre of it was seeded to Japan clover.

In the year 1925 the lespedeza made only a fair stand, but most of the plants were inoculated. In the fall of 1926, however, it was observed that the lespedeza had almost a full stand, apparently having reseeded itself quite efficiently that year. It was also observed that the pasture vegetation on the adjoining acres of this field was better than in the lespedeza section.

In the fall of 1927 the plat was again visited and was observed to have a poorer stand than in the previous fall. On October 12, 1927, the plants had passed bloom with a prospect of maturing more or less seed that year.

On October 5, 1934, the plat was again visited by the specialist. This field had been top-dressed with manure and superphosphate 2 years previously. It had also been limed in recent years. The grass and clover in the rest of the pasture looked fairly good. There was, however, only a scattered stand of the Japan clover. In spots the stand was very good but in many areas no plants could be found. The owner is not much impressed with Japan clover, partly on account of poor stand, and partly on account of its small size. It is possible that in some years little or no seed matured, but there is no doubt that in other years the seasons have been long enough for seed ripening.

During the past year the extension agronomist has made observations on approximately a dozen plantings of Lespedeza sericea. Most of the plantings have not been successful for one reason or another. Lack of success has apparently been due in large measure to inefficient methods in locating, preparing for, and sowing the crop. The following remarks are offered regarding several of the plantings which possess certain interesting features:

Irving D. Miller, Woodstown.--In the spring of 1933 he sowed about one-quarter acre in rows about 4 feet apart on very poor, sandy loam soil, more or less eroded. This area had been abandoned for years and there was probably little residual plant food in the soil. No fertilizer or lime was applied before sowing. Although he did not inoculate the seed the crop was well inoculated. The man's original purpose had, too, been seed production.

When visited on October 5, 1934, the planting was observed to have a fair stand and very thrifty plants from 2 to 3 feet high. A good deal of seed had reached the dough stage, but it is doubtful whether any considerable amount of seed will mature.

Considering the poverty of the soil it would seem that the crop is making a remarkable showing. The plants had not covered the rows, of course, on account of the wide distance between rows.

Dr. White, Broadway.--This planting was made in the spring of 1933 by the extension agronomist and the county agent of Warren County. It was described in the annual report of 1933. In this report it was noted that, although the seed had been inoculated and a good stand of plants secured, a very large proportion of the plants were observed to be uninoculated in the fall of 1933.

Further observations in the late summer of 1934 revealed the presence of only a few plants, most of which were probably not inoculated.

The difficulty here has apparently been lack of inoculation even though the seed had been inoculated. It may be remarked that north Jersey soils are not naturally inoculated to the lespedezas, whereas most of the soil of south Jersey is.

Summary.--It would seem that where favorable conditions are provided, sericea may be depended upon to make a good stand. It would also seem that its full growth cannot be attained until the second or third year after planting.

Although it is probably not necessary to inoculate the seed in south Jersey it is highly essential to do so in north Jersey, and even though the seed is inoculated in north Jersey there is no definite assurance that a well-inoculated crop will result. This points to the necessity of careful attention to this matter of inoculation if the crop is to be grown in north Jersey.

It is probable that the plants cannot be depended upon to mature seed in any part of the State. This is no disadvantage, however, as there will undoubtedly be a plentiful supply of seed in the future at moderate prices.

In none of the New Jersey plantings has the crop been utilized for hay or pasture. The value of sericea for these purposes, therefore, is yet to be determined. It is probable that one good cutting of hay can be secured in a season. Whether it is possible to expect a second cutting of hay, or some late summer pasturage after the first cutting, remains to be seen. It is also a question as to how much weed growth will result where a crop is utilized for hay or pasture. H. R. Cox, Agronomy, New Jersey State College of Agriculture, New Brunswick.

New York

The agronomy extension service is always being asked for its opinion on and for information about new crops. The one about which more requests have been received recently than for any other new crop, possibly in the history of the department, is Harbin lespedeza. Beginning in the season of 1932 the department began making observations with this plant on its experimental fields at Ithaca. These observations have been continued, and for the most part have been indicative of the fact that Harbin lespedeza has but little to offer the New York farmer. In the season of 1933 the extension service of the agronomy department was able to obtain a very small quantity of Harbin lespedeza seed and made some preliminary field observations. The experiments were quite well scattered over the State and afforded results in general similar to those which had been afforded by experimental work carried on at Ithaca. In the spring of 1934, through the cooperation of the office of Professor Pieters of the United States Department of Agriculture, the agronomy extension service obtained about a bushel of Harbin lespedeza seed. This seed was partly used by county agents and farmers in very small demonstration plots. The bulk of it was put in six demonstrations located in three southern-tier counties of New York, the counties being Cattaraugus, Tompkins, and Delaware. In each county two situations were chosen, (1) a field which a farmer had prepared for seeding down to meadow with oats, and (2) a typical permanent pasture area. Professor Barron had supervision of this work, and recently, in order to have material ready for answering questions on lespedeza, and to fulfil an engagement for a radio talk, he prepared a statement on the findings to date.

The following is taken from this report: "There is a perennial type of lespedeza known as 'Lespedeza sericea', which has not yet been mentioned. This lespedeza never produces seed as far north as New York, but it is a perennial and will maintain itself with us from year to year if conditions are not too severe. However, the yield from it in the cases where it has been observed under field conditions is not very large nor is there any tendency for the stand to thicken after it is once seeded."

E. L. Worthen and others, Agronomy, New York State College of Agriculture, Ithaca.

North Carolina

Two thousand four hundred eighty result demonstrations in lespedeza were conducted in 17 counties. Six hundred ninety-three farmers followed fertilizer demonstrations in 9 counties.

The Randolph County agent calls lespedeza the "Queen of All Legumes." There are more than 20,000 acres seeded in his county, and he estimates that 500,000 pounds of seed were produced this fall.

Korean produces more seed than any of the other varieties. The fact that lespedeza will thrive without lime and on the poorest soil types places it within the reach of every farmer. Lespedeza has been the foundation of the dairy industry and of soil improvement in Randolph County.

Harbin lespedeza was introduced into Alleghany and Avery Counties by the district agent. It apparently has a place at high altitudes where other species will not do well.

One hundred pounds of Lespedeza sericea were planted in Alleghany County. The lespedeza made a good growth where a proper stand was secured.

Lespedeza is used extensively for soil improvement by the apple growers in the Brushy Mountains of Wilkes County. In the same county two crops of lespedeza have more than doubled the yield of corn without the use of fertilizer.

Ten thousand pounds of seed, mostly of the Kobe variety, were sown in Caldwell County. Thirty-five farmers have seed pans and have saved about 35,000 pounds of seed this year. One farmer planted 1,500 pounds of Lespedeza sericea for hay on 40 acres.

Caswell County farmers are learning the value of lespedeza in checking soil erosion. Fifteen lespedeza seed pans are now in use in the county.

Yadkin County farmers planted 20,000 pounds of seed during the year. A common practice in this county is to mix the varieties so as to have early and late pasture.

In Orange County one hardware store sold 13 mowing machines, 10 of which were equipped with special lespedeza cutter bars. A modern seed cleaner was installed in the county.

Eight demonstrations on 2-year lespedeza sod gave an average yield of 38 bushels per acre on 42 acres in Rockingham County.

Around 1,200 to 1,500 acres of lespedeza are being grown in Person County

compared to 4 or 5 acres 8 years ago. Three seed pans were placed on mowing machines by the county agent, and 12 seed pans were ordered for farmers who wished to save seed for themselves.
O. F. McCrary, County Agent, Northwestern District, North Carolina State College of Agriculture and Engineering, Raleigh.

In 1933, Burett Sherrill of Mecklenburg County worked a 4-acre field in cotton using Mexican Big Boll. Three hundred pounds of 8-4-4 fertilizer was used, cultivated four times; yield 1,955 pounds lint. At the last cultivation the field was sown to Korean lespedeza. In the spring of 1934 this field was turned and disked. May 16 it was planted to Mexican Big Boll cotton. Three hundred pounds of 8-4-4 fertilizer was used. The crop was cultivated four times. The yield was 2,375 pounds lint, net gain of 420 pounds.

Lonnie Morrison of Eufola, Route 1, had a very interesting demonstration with lespedeza. He harvested 25 bushels of wheat from the 1-acre demonstration in June and afterwards got 3-1/2 tons of lespedeza hay from the same acre. Mr. Morrison stated that it took him and one of his boys less than a day to harvest and put into the barn the 3-1/2 tons of lespedeza hay which was worth more than the fodder and tops from 12 acres of corn which took nearly a week for six workers to harvest. Mr. Morrison thinks that he is through pulling fodder.
John W. Mitchell, District County Agent (Negro), Negro Agricultural and Technical College, Greensboro.

The variety lespedeza test plots at the Jackson Training School, after being mowed very, very close with a special lespedeza cutter bar last fall, showed that Korean and Kobe were the only varieties of the four lespedezas holding their own and that Korean alone came back a perfect stand volunteer. All of which goes to show that you can depend on Korean being there in spite of trying conditions. We have further found that Korean has not failed to make a heavy crop of seed for reseeding since we started growing it in 1928, and the farmers have been able to save plenty of seed for seeding additional acres.

R. D. Goodman, County Agent, Concord, Cabarrus Co.

My main aim is to get every idle acre seeded down to this crop (lespedeza). My reason for this is simple. It is the only legume that I know of that can just be hogged into the land, regardless of the fertility or the acidity of the land and still get a catch. Prepare a good seedbed and it does better; add lime and it does still better; do both and put it on strong land and it does better still. In other words, I know of no crop that will respond quicker to good treatment, but on the other hand I know of no crop that will take the same punishment.

The fact that it will grow without lime and on our poorest soils puts it within the reach of the poor as well as the rich. The ease with which the seed can be saved also puts it within the reach of all, for any man who can buy a bushel of seed for 1 acre can, by saving the seed in the fall, be prepared to seed any additional acres that he desires the next year. Our aim is to see every idle acre seeded to this crop, and also every cultivated acre carrying lespedeza in the soil rotation.

We have been very proud of the progress made in our dairy development in this county, but without lespedeza pastures this progress could not have taken place. We are also proud of the increased per acre yields of corn, wheat, and other cultivated crops, but the greater part of the credit goes to the lespedeza sod turned under rather than to better cultural methods or fertilization.

E. S. Millsaps, Jr., County Agent, Asheboro, Randolph Co.

This little leguminous plant has done more to improve the soil and advertise the county than any other thing. Every farmer has the highly recommended practice of sowing it on his grain crop, usually wheat or oats, during January, February, or March, using 1 to 1-1/2 bushels per acre. Every farmer likewise cuts it after grain harvest for hay and seed. The seed, for several years past, has been a dependable source of cash income. Six seed cleaners prepare the product for market. The Stanly County Mutual Exchange has one of the best machines in the State, and the Exchange is the outgrowth of the yearly increase of lespedeza acreage. It has done a good job in stopping our broad, rolling fields from erosion.

Leading varieties are Kobe, Tennessee 76, and Common. Questionnaires from 14 farmers show that the average yield of hay per acre is 2,530 pounds and the seed per acre 154 pounds. The producers averaged harvesting 7 acres for hay and 12-3/4 acres for seed per farm.

After "panning" the seed (beginning in October) the hay is usually left on the ground and turned under for soil improvement, or used for bedding or for hay in an emergency. Sometimes it is threshed for additional seed. Recently a market has been found for this so-called "panned hay" at $14 per ton baled and delivered in Spartanburg, 120 miles away.

John W. Artz, County Agent, Albemarle, Stanly Co.

Ohio

Lespedeza Project - D. R. Dodd, Leader.--Special attention has been given to the adaptability and value of various lespedezas.

The value of Korean lespedeza as an orchard cover and pasture crop has been demonstrated at many locations. Mimeograph, a printed bulletin (Ohio Agr. Expt. Sta. Bimo. Bull., Jan.-Feb. 1934), and news story material have been prepared for county agents, teachers, institute instructors, and farmers.

Korean and common lespedeza are both now being extensively used in the southern part of the State as a result of these activities.

Lespedeza sericea is being closely watched in experimental tests but as yet it has not shown itself worthy of promotion through extension activities.

R. D. Lewis and others, Agronomy, Ohio State University, Columbus.

Oklahoma

Last spring I placed in the hands of 40 farmers 4,000 pounds of Korean lespedeza seed and 100 pounds of Dallis grass. These 40 farmers live in all sections of the county and their farms represent all soil types, from gumbo to blow sand.

I have oral and written reports of the demonstration from 28 of the 40 demonstrators. These demonstrators report everything from a complete failure to a complete success with their demonstration.

The seed was received here the latter part of March from Tennessee, pure Korean, dodder free. Some of them planted at once and a few of them did not get to plant until the middle of April. All methods of seeding were used, from sowing on fields without any preparation to plowed land with results about as varied.

At the time of seeding, there was very little top moisture and no submoisture. Some of the seed did not come up for 30 days after planting because of the lack of moisture. On the sandy land some of this seed blew from the fields before the rain.

Considering the reports of this first real trial of Korean lespedeza in this county, especially for a summer like we have never experienced before, I feel that it has more than made a reputation for itself and will become our best legume pasture grass.

The best indication of the value of this grass will be given to you in the following reports of several of the men as they have reported to me:

Mr. W. A. Garland, Gracemont, White Bread Township, on mixed sandy land reports as follows, "I planted 13 acres of lespedeza on top of the ground with no preparation of the seedbed, with a hand seeder, and got a good stand. This grass stood the drought better than any other grass. I did not have it in a field where I could pasture it. I believe it is the grass for this county."

H. R. Maier, Stecker, on mixed land, reports, "I planted 18 acres of lespedeza on land that was double disked, sowed the seed on top of the ground, and got a good stand. It stood the drought better than any other grass and made average pasture. However, I don't believe it will stay average."

H. F. Rundle, Abilene Township, adjoining Apache on the south, reports, "I planted 40 acres of Korean lespedeza with a wheat drill, drilled it in the fall barley and got a good stand. I pastured the barley off with cattle and continued to pasture the cattle on the lespedeza all summer. It did not get over 4 or 5 inches high at any time, but furnished pasture for over 30 head of cattle all season and reseeded. I think it is good if it will come back in the spring. I am reseeding this land to winter barley by disking and will hope for a stand of lespedeza."

I think this is the most outstanding demonstration in the county. The soil on this farm is rather light and has washed to some extent, being on a slope. While the Lespedeza did not grow up from the ground because of pasturing, yet it was from 6 inches to a foot long on the ground. In October when I visited the field it was seeding heavily while it was still being pastured.

J. R. Compton, Fort Cobb, Walnut Township, reports, "I planted 4-1/2 acres of lespedeza in oats with a clover drill. I got a good stand and pastured it some in September, but did not pasture it enough to tell the value of it. It stood the drought as well as the other grasses."

Leo DeRuntz, Eakly, Swan Lake Township, on mixed sandy land, reports: "On corn-stubble land I seeded 8 acres of lespedeza without preparation. The ground had been broken the spring before for corn. This grass lived when cockleburrs growing in it died. There was no subsoil moisture. The lespedeza got 6 inches high and stood until it rained and then grew 8 inches more. I pastured it after the rains set in in September. It made A-1 pasture. I ran 3 calves, 3 heifers, and 5 horses on this 8 acres and got 6 weeks of first-class pasture. The calves gained 100 pounds. The heifers doubled their milk on once-a-day milking. I had one case of mild bloating. If this grass reseeds itself next spring, it is the greatest grass ever introduced in this country. It has ability to withstand drought, hot winds, and does not tramp out easily. The roots get down into the soil when careless weeds won't."

L. I. Bennett, County Agent, Anadarko, Caddo County.

South Carolina

My observation of the behavior of sericea simply confirms what the enthusiasts have been saying of its growth in future years. It has proved to be a very good crop. A demonstration was conducted by M. A. Menafee of Denmark, S. C. The demonstration consisted of 1/2 acre for seed and 1 acre for hay crop.

On this plot a test demonstration was made as to the number of times Lespedeza sericea could be harvested during a year. It was found that, due to the suitable climate, it would make an average growth of 18 inches every 60 days, with ample time to allow growth for a small seed production, with about 200 pounds application of complete fertilizer. Like other legumes, lespedeza is a forage crop that is high in protein and other food substances, which makes it very palatable to all animals. It is also very easily cured, that is, it can be cured in a house after a few hours of sunshine.

The remaining part of this demonstration was conducted for seed purposes to furnish those who desire to plant lespedeza for hay crop or permanent pastures.

With land rented to the Agriculture Adjustment Association, Lespedeza sericea offers to the farmers of this section of the State a legume which ordinarily will grow in the coastal section of South Carolina for permanent pastures or hay crop. Unlike alfalfa and other clovers it will grow on very poor soil and is a very good drought resistant legume.

On October 8 we harvested 200 pounds of lespedeza seed and more than 500 pounds of hay on one half acre. The seed was valued at 45 cents per pound. The cost of fertilizer, labor, and rent of land was $10. The total seed value was $90 and the net profit was $80.

As a result of this demonstration, more farmers are enthusiastic over the planting of Lespedeza sericea as a soil builder or permanent pasture and hay crop.

H. E. Daniels, District County Agent (Negro), State College, Orangeburg.

While I was very busy with the cotton acreage reduction campaign at the time, I had planned to have pushed a campaign for the increased acreage in lespedeza this spring, I did find time in a general way to further urge the planting of the crops, but the crop spoke for itself from demonstrations of last year as to its value for pasture, land building, and hay, and the acreage was considerably increased in spite of the shortage of seed. Farmers in this county are becoming "sold" on the crop and I believe larger numbers will sow it in their grain this winter, especially in pastures and on rented acres which are now largely in grain. A good many farmers saved their own seed this fall, although I have no record as to how many.

One of the best demonstrations in lespedeza growing in the county and one which has probably helped to "sell" the crop in this county has been located on the farm of Paul E. Morgan in the Midway section of the county. Three years ago Mr. Morgan went with a group of farmers from this county to visit Union and Stanly Counties in North Carolina to get first-hand information on lespedeza growing. He bought seed and began planting Korean lespedeza that fall and the next fall saved seed and planted a larger acreage in addition to selling a few neighbors his surplus seed. He did the same the following year. This fall he reports he saved approximately 9,000 pounds of seed from 30 acres in addition to a supply of hay more than sufficient to meet his farm needs.

He reports that neighbors who visit his farm almost invariably express themselves as surprised at the way his livestock relish the hay. His increased crops of corn and cotton speak for the value of the crop as a land builder. This winter he has planted 75 acres in oats and 7 acres in wheat, all of which is already seeded or will be seeded to lespedeza. In addition to seeding his own farm Mr. Morgan reports that he has already sold his supply of surplus seed to 30 other farmers and that he could sell more seed if he had it. This demonstration gives a splendid illustration of how a successful demonstration will "sell" a desired new practice in a community.

S. C. Stribling, County Agent, Gaffney, Cherokee County.

Tennessee

A few years ago, about 1927, the Agricultural Extension Service inaugurated a pasture program. A seed mixture was worked out and presented to the farmers of the State. It consisted of 2 pounds of white clover, 2 of alfalfa, 8 of orchard grass, 2 of bluegrass and redtop, 6 of sweetclover, and 4 of lespedeza. It was an expensive mixture and required lime. The depression came on. Money became scarce. A few of our leading farmers sowed the heavy mixture. They ran squarely into 2 or 3 successive severe droughts. The stands died out in the summer. Lespedeza, however, stood the test. It has been the summer pasture and to a large degree the hay crop for the past 3 years, and is growing in popularity yearly. Korean has jumped into the lead by thousands and thousands of acres. In fact, it nearly carpeted the contracted and idle acres in the State in 1934. Count the fields as you drive out any highway or road in any county in Tennessee. They speak for themselves.

The assistant agronomist stood with Korean when it had few friends among the extension, college of agriculture, and experiment-station workers. I still think Kobe should be grown on thousands of farms where Korean is now being grown. Tennessee 76 also has a place, but for the time being both Kobe and 76 are away in the background; in fact, they are almost in obscurity.

R. H. Milton, Agronomy, College of Agriculture, University of Tennessee, Knoxville.

Lespedeza was really sown in this county this year. Home-grown seed did not supply one-fourth of the demand; so great was the demand for the seed that we set aside 2 days called "Lespedeza Days." On these days out-of-the-county farmers who had certified seed were invited to bring them to Celina for market.

Our own farmers who had seed for sale also brought it to this sale. On these 2 days over 12,000 pounds of lespedeza seed was bought by Clay County farmers. A fair estimate of acres sown in lespedeza would be from 5,500 to 6,000. This furnishes abundance of pasture, then a good hay crop. Twelve carloads of lespedeza can be shipped out of the county this year. The real value, however, is in soil improvement and prevention of soil erosion. Farmers were all pleased by sowing lespedeza - thinking and talking lespedeza.

Charles Vaughn, County Agent, Livingston, Clay Co.

The 14 days that I have given to lespedeza are a very small part of what has happened in Dickson County this year in increased production of this crop.

For the past 3 years I have had a lespedeza booth at the Dickson County Fair, each time presenting different features of educational value as a means of selling to the farmers of Dickson and adjoining counties, who attended the county fair, the value and importance of lespedeza.

In 1931 my display was featured around, "Milk Flows Where Lespedeza Grows", and this was illustrated by a flow of milk over a representative mountain of lespedeza coming out at three different points, uniting in front, and forming a lake of milk, which was very impressive in teaching the dairy interest of the county what lespedeza will do in milk production. Placards were displayed giving feed value per ton and approximate milk production.

The educational feature of the 1932 lespedeza booth at the county fair was the production of quality dark-fired tobacco. This was displayed by giving results from growers who had produced tobacco following lespedeza in contrast to those without it, both as to yield, quality, and selling price, and in all cases it represented from 150 to 250 pounds increased yield with an increased selling value of over $20 per acre.

The 1933 lespedeza booth at the county fair displayed its worth in hay production. This was given by contrasting the yield of lespedeza hay with that of other hay crops on the farm. Again the differences in yield per acre were given, as reported by several farmers from different sections of the county. This represented hill as well as bottom land, and in all cases lespedeza was the most impressive to the farmers, not only in yield, but what a difference it made in supplying the family needs for dairy products in the winter. Cut corn, sorghum, and red top hay had been the principal roughage for the farmers until lespedeza was produced.

Previous educational exhibits at the county fair and constant agitation personally with the farmers and in group meetings aroused interest which was climaxed the past spring when some over 100,000 pounds of lespedeza seed was sown in Dickson County. Forty-two leaders assisted me in this work and it came about in this way. I held 21 tobacco and corn-hog meetings in as many communities of the county during the month of February, at which time I discussed the value of lespedeza and appointed local committeemen to contact their neighbors in the interest of buying in volume for a cheaper price. This committee did work wonders in helping to increase the acreage in the county. I recall at the White Bluff meeting that in 20 minutes after the committee was appointed, they had over 7,000 pounds subscribed, and this spread to other communities and encouraged the committees there.

Another feature that helped to encourage the increased acreage of this crop was a paid "ad" in the Dickson County Herald for 4 weeks by the First National Bank of Dickson, offering to finance farmers in the purchase of seed. The agricultural teacher in the Dickson high school, V. L. Harden, and his agricultural class also made their contribution in helping.

Following the big acreage seeded, the question arose in my mind as to the character of the exhibit that the lespedeza booth at the Dickson County Fair for 1934 should carry. I discussed this with the agricultural teacher, Mr. Harden, the president of the First National Bank, and a number of leading farmers, and it was decided to stress soil protection. Being so busy with my A. A. A. program, I asked Mr. Harden to assist me in putting on this exhibit, and this he did. The booth consisted of a 16 by 20 space. On one-half of this area, lespedeza was cut and put on in shingle fashion, in the green stage, making a beautiful green-field appearance. The other half was covered with soil and small gullies were made and water poured on to trace them, giving appearance of soil erosion, both in sheet and gullied form from land without cover protection. This created as much comment on the part of the farmers as any lespedeza booth that we have ever had at the county fair. The following placards gave interest and zest to the exhibit: "Sow Lespedeza and Keep Your Soil at Home"; "Take Care of the Soil and the Soil Will Take Care of You." These two placards represented soil erosion. The other placard in front of the lespedeza-covered area read: "This Is the Road to Better Farms and Farm Homes." I feel that the results of the continued agitation for lespedeza are the outstanding feature of extension work during my 10 years in this county. This is the first year since I have been here that Dickson County farmers have hay for sale, and some 3 or 4 hundred tons have been listed to sell to the drought areas in the West.

Pastures.--A few years ago we started out very well to build some permanent pastures, but the farmers' money ran out and so did the lime, and there we stopped. Lespedeza, for a few summer months, only, has partly filled its place, but is improving the soil to where we can soon take up our program when the farmer has an increased income.

Thomas Henry Richardson, County Agent, Dickson, Dickson Co.

The growth of lespedeza has become so widespread that seed production is becoming very profitable to a large number of producers. Through the assistance of the county agent, more than 25,000 pounds of lespedeza seed was marketed, priced through county agents in other counties at an average of 6 cents per pound net to the growers. The growing of this wonderful crop has proved of untold benefit to this county. It is furnishing excellent pasture during the hottest months of the season, and results are readily seen in fatter lambs for the market and more milk for those who are selling to the large milk plant in this county. Many farms that have been washed by heavy rains are being reclaimed with this crop. In past years late hay crops in this county always included lots of wild grasses of poor quality. Now thousands of tons of the finest hay is available because of lespedeza.

W. P. Davidson, County Agent, Greeneville, Green Co.

When sericea seed sold at high prices, our farmers were very much interested in this crop. Since it seems that the price has become so low that it is not profitable to produce, very few farmers seem to be interested in this county. However, we still have some few farmers who think that *sericea* really has a place in our crop rotation. Ewing Redding of Lockert community reports that he harvested 300 pounds of *sericea*, from 6 ounces of seed. He has cut *sericea*, when it was something like 6 inches high, and when properly cured he reports that the stock relish this hay. P. A. Meriwether of Hazelwood community has a demonstration of *sericea*, planted in rows 3 feet apart, 2 feet in a drill, 3 years ago, and it is now an almost perfect stand. The stand has thickened each year. It seems to thrive in extremely dry weather. Many of our farmers, who have compared it with Kobe and Korean, report that it will stand drought better than the other plants because it feeds deeper due to its root system. However, reports are that is not as easy to get the stand as Kobe and Korean and for best results it should be cultivated for the first year. Korean lespedeza continues to be the most popular legume in this county, while Kobe, for late pasture and hay, is growing in popularity. Due to low-priced seed last year, farmers are to a large extent harvesting their lespedeza for hay instead of seed. It is estimated that only 50 percent of the farmers who saved seed for sale last year will have seed for sale this year.

G. C. Wright, County Agent, Clarksville, Montgomery Co.

I think if you just had an idea of the soil type and topography of the county you could realize how important this next discussion really is- that of lespedeza. The county is rough, rolling, and very susceptible to washing or erosion. Land cleared will be good for only 5 or 6 crops and then begin showing gullies. Acres and acres have been abandoned to grow up in persimmons and sassafras because of a 1-crop system - that of corn. So when the A. A. A. program started I had a grand opportunity for some real education. There was not a meeting held where I did not go into detail as to the merits of lespedeza and its place in a rotation for soil building and as a pasture and hay crop. On top of all this, March 3 was set aside as Lespedeza Day in Overton County. A committee, of three farmers, and I sent letters to all farmers signing contracts, to all we know who did not sign and to seed distributors all over the State. The results were very pleasing. On that date, 10,000 pounds were sold and later approximately 75,000 pounds more. This is more important because only 8 to 10 farmers were, before this, consistent growers of this important crop. This has meant a cost to farmers of $3,750 and in return has a value of approximately $30,000 to $40,000. By the way, just 3 weeks later, Gov. Hill McAlister declared a State-wide Lespedeza Day. At least, we hadn't done anything radical.

William O. Sewell, County Agent, Linden, Overton Co.

Korean lespedeza was used more widely than ever. There were about 50 new users in several of the more distant communities. It was used for the first time as a turn-under crop, preceding Irish potatoes. It was widely used for the first time as a hay plant with good results.

Lespedeza sericea was used for soil building for the first time. It proved to be very satisfactory, especially on newly cleared land. It was tried as a hay plant in three cases and found to be satisfactory.

C. Evans Looney, County Agent, Oneida, Scott Co.

Texas

Reports from 31 Lespedeza sericea demonstrators indicate that 12 of the 1-acre demonstration plots were successful in 1934. The remaining 18 were hindered from planting their seed in the early spring by the extended drought, and will plant the following spring.

The sericea made a satisfactory growth on the 12 plots, and it is evident that a desirable crop for hay and supplemental pasture has been found for this area.

John Koelemay of Nederland used this crop on his permanent pasture and, while it made a fair growth, he is of the opinion that it will be more satisfactory for temporary grazing and hay, due to its upright growing habits.

With the cooperation of the United States Department of Agriculture, 21 experimental plots of clover and grasses were planted by W. P. H. McFaddin, Jr. It was the purpose of Mr. McFaddin to try to find a crop with the best promise for a large acreage of grazing land in Jefferson County.

The experimental plots were placed on soil of the same nature as a majority of his ranch land.

Alsike clover showed a fair growth in the spring but did not reseed. McNeill clover was a failure in these experiments. Korean and Kobelespedeza were both failures. Tennessee 76 lespedeza made a fair growth, but did not reseed itself. Lespedeza sericea on these experiments has shown a satisfactory growth when planted in rows and given one or two cultivations. It was not successful broadcast in the native grasses.

J. F. Combs, County Agent, Beaumont, Jefferson Co.

Virginia

A drive was begun in Essex County 7 years ago with as small a beginning as three farmers who were induced to sow a little Korean lespedeza seed. It was estimated that there were 200,000 pounds of this seed threshed in the county this year. Lespedeza is a relatively new crop in the State, but by means of extension demonstrations it has become one of our important crops. Its value as a soil improver, pasture, and hay crop, and its ability to withstand dry weather and grow on practically all types of soil make it a crop of inestimable value to Virginia.

C. A. Montgomery, Assistant Director, Virginia Polytechnic Institute, Blacksburg.

We are especially pleased at the results obtained from the seeding of lespedeza. Twice as much lespedeza was seeded throughout the territory as we expected to get seeded. It will be impossible for me to place an estimate on the value of this crop as a pasture through the hot, dry months of July and August, and the pastures were even better in September and October. A large tonnage of excellent hay was cut and we will probably thresh from 3 to 4 times as much lespedeza seed as we did last year; and we have learned to produce cleaner seed by pasturing the first year and saving seed from the second year's crop.

J. G. Bruce, District County Agent, Culpeper.

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